CLAIMS

1.   A picture providing apparatus adapted to input distorted picture image in which a predetermined range is collectively imaged from image pick-up means to provide the entirety or a portion of the picture image in accordance with request of a picture image display unit,

the apparatus including:

communication means for receiving request for transmission of picture image from the picture image display unit and for transmitting the entirety or a portion of the picture image from which distortion has been eliminated to the picture image display unit;

memory means for storing the picture image inputted from the image pick-up means;

selector means for selecting the entirety or a portion of the picture image stored in the memory means in correspondence with the request that the communication means has received; and

picture image conversion means for eliminating distortion of the entirety or a portion of the picture image selected by the selector means and for converting it into high quality picture image.

2.   The picture providing apparatus as set forth in claim 1,

wherein the picture image conversion means eliminates distortion of the entirety

or a portion of the picture image selected by the selector means by classification adaptive processing and converts such picture image into high quality picture image.

3.   The picture providing apparatus as set forth in claim 2,

wherein the picture image conversion means reduces the number of bits of pixel value of pixels of block for classification by ADRC processing.

4.   A picture providing method for a picture providing apparatus adapted to input distorted picture image in which a predetermined range is collectively imaged from an image pick-up unit to provide the entirety or a portion of the picture image in accordance with request of a picture display unit,

the method including:

a communication step of receiving request for transmission of picture image from the picture image display unit and of transmitting the entirety or a portion of the picture image from which distortion is eliminated;

a memory step of storing the picture image inputted from the image pick-up unit;

a selection step of selecting the entirety or a portion of the picture image stored at the memory step in correspondence with the request received at the communication step; and

a picture image conversion step of converting the entirety or a portion of the picture image selected at the selection step into picture image from which distortion

has been eliminated and of converting it into high quality picture image.

5.   A memory medium adapted so that there is provided program that computer can read,

processing executed by the computer including:

a communication step of inputting distorted picture image in which a predetermined range is collectively imaged from an image pick-up unit to receive request for transmission of picture image from a picture image display unit to a picture providing unit for providing the entirety or a portion of the picture image in accordance with request of the picture image display unit, and of transmitting the entirety or a portion of the picture image from which distortion is removed to the picture image display unit;

a memory step of storing the picture image inputted from the image pick-up unit;

a selection step of selecting the entirety or a portion of the picture image stored at the memory step in correspondence with the request received at the communication step; and

a picture image conversion step of eliminating distortion of the entirety or a portion of the picture image selected at the selection step and of converting it into high quality picture image.

6.   A picture processing apparatus comprising:

extraction means for extracting feature quantity every predetermined unit of picture data having distortion;

classification means for carrying out classification every predetermined unit of the picture data in accordance with the feature quantity extracted by the extraction means; and

picture image conversion means for correcting the distortion of the picture data in accordance with result of the classification and for converting the picture data into high quality picture image.

7. The picture processing apparatus as set forth in claim 6,

which further comprises image pick-up means for imaging the picture data having distortion.

8. The picture processing apparatus as set forth in claim 6,

wherein the picture image conversion means eliminates distortion of the picture image having distortion by classification adaptive processing and converts it into highy quality picture image.

9. The picture processing apparatus as set forth in claim 6,

wherein the classification means reduces the number of bits of pixel value of pixels of block for classification by the ADRC processing.

10. A picture processing method including:

an extraction step of extracting feature quantity every predetermined unit of picture data having distortion;

a classification step of carrying out classification every predetermined unit of the picture data in accordance with feature quantity extracted by the extraction step; and

a picture image conversion step of correcting the distortion of the picture data in accordance with result of the classification and of converting it into high quality picture image.

11. A memory medium adapted so that there is provided program that computer can read,

processing executed by the computer including;

an extraction step of extracting feature quantity every predetermined unit of picture data having distortion;

a classification step of carrying out classification every predetermined unit of the picture data in accordance with the feature quantity extracted by the extraction step; and

a picture image conversion step of correcting the distortion of the picture data in accordance with result of the classification and of converting it into high quality picture image.

12. A picture providing system comprising an image pick-up unit, a picture providing unit, and a picture display unit,

wherein the image pick-up unit includes image pick-up means for collectively imaging picture image of a predetermined range,

wherein the picture providing unit includes:

first communication means for receiving request for transmission of picture image from the picture display unit and for transmitting, to the picture display unit, the entirety or a portion of the picture image from which distortion has been eliminated so that there is provided high quality picture image;

memory means for storing the picture image inputted from the image pick-up unit;

selector means for selecting the entirety or a portion of the picture image that the memory means stores in correspondence with the request that the first communication means has received; and

picture image conversion means for eliminating distortion of the entirety or a portion of the picture image selected by the selector means and of converting it into high quality picture image, and

wherein the picture display unit includes

second communication means for transmitting request for transmission of the picture image to the picture providing unit and for receiving, from the picture providing unit, the entirety or a portion of the picture image from which distortion is eliminated

so that there is provided high quality picture image.

13.   A picture providing system comprising an image pick-up unit, a picture providing unit and a picture processing unit,

wherein the image pick-up unit includes

image pick-up means for collectively imaging picture image of a predetermined range,

wherein the picture providing unit includes:

first communication means for receiving request for transmission of picture image from the picture processing unit and for transmitting the entirety or a portion of the picture image to the picture processing unit;

memory means for storing the picture image inputted from the image pick-up unit; and

selector means for selecting the entirety or a portion of the picture image that the memory means stores in correspondence with the request that the first communication means has received, and

wherein the picture processing unit includes:

second communication means for transmitting request for transmission of the picture image to the picture providing unit and for receiving the entirety or a portion of the picture image from the providing unit; and

picture image conversion means for carrying out conversion into the high quality

picture image.